

2.0-2.1 Astronomy TAG

Intro/Understand the Question

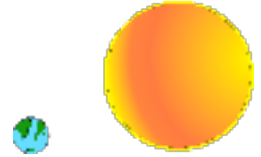
How Do Earth, the Moon, and the Sun Move Through Space?

Name _____

Hour _____ Date _____

Read p. 65.

What do you need to know in order to predict whether an object in space will collide with another object?



What did ancient astronomers observe, and what did they realize based on these observations?

What will you be doing in this learning set?

2.1 Understand the Question: Think About How You Can Find Out About the Motions of Earth, the Moon, and the Sun

The sun APPEARS to move across the sky from east to west. What is actually happening?



Read p. 66-67 and watch the video of the Foucault pendulum.

Read the top of p. 67.

Define the following:

Rotation	
Revolution	

How are we going to examine the apparent motion of the Sun?

Read the procedure on p. 68 and follow the directions using your *Sundial Patterns sheet*.

Analyze Your Data p. 69

1. Describe any patterns you can observe in the shadows throughout the day.
2. Describe any patterns you can observe in the position of the Sun throughout the day.
3. Why do you think the length of the shadow changes throughout the day?
4. How do the sundial shadows record the apparent movement of the Sun across the sky?
5. What do you know about shadows that helped you answer these questions?



Reflect p. 69

1. What do you think the sundial shadows would look like if images were produced for two days in a row?
2. What would you tell people about the apparent motion of the Sun across the sky? How would you support what you tell them with your observations?

Read "How a Sundial Works" p. 69

Reflect p. 71

1. How could you use a vertical stick to create a sundial? What do you think you would need to know to tell the correct time using the shadow of the stick?
2. Why do you think sundials are not used as time-keeping instruments today?
3. Where would the Sun have to be for a vertical stick to cast no visible shadow on a sunny day?
4. How would you explain to someone why the Sun seems to move throughout the day when observed from Earth?
5. What else do you need to know to give a more complete explanation about where the Sun is and why it seems to move across the sky?
6. Think about how the Sun's apparent movement makes it seem as if the Sun goes around the Earth. Yet you know that the Sun is at the center of the solar system and that Earth revolves around the Sun. What does that tell you about what else you need to know to determine the location and movement of objects in the solar system?

Update the Project Board